

Amendments to the Claims

1 Claim 1 (currently amended): A method of monitoring network performance where performance
2 requirements are already established in order to generate anticipatory alerts, comprising:

3 monitoring, by a computer, a performance-defining metric on a recurring basis to obtain
4 samples of the metric;

5 determining a trend in actual service based on the obtained samples of the metric using
6 linear regression, further comprising:

7 analyzing a set of samples obtained over a predetermined sampling interval to
8 determine whether the analyzed set satisfies predetermined reliability criteria, the predetermined
9 reliability criteria requiring a predetermined, minimum number of samples in the set; and

10 if the analyzed set of samples satisfies the predetermined reliability criteria, then
11 using the set of samples in the linear regression, further comprising:

12 determining a standard deviation and a mean of the ones of the obtained
13 sets of samples,

14 determining a ratio of the standard deviation and the mean of the ones of
15 the obtained sets of samples, [[and]]

16 generating a prediction, using the ones of the obtained sets of samples in
17 which the ratio of the standard deviation and the mean does not exceed a predefined threshold, of
18 a time at which the metric will cross a defined threshold if the current trend continues; and

19 generating an anticipatory alert if the time at which the metric will cross the
20 defined threshold is less than a predetermined time from a current time at which the prediction is
21 made; and

canceling a previously generated alert if a subsequently-generated mathematical representation of the current trend predicts that the time when the network performance metric will exceed the defined threshold is not within a predetermined time window measured from a current time at which the subsequent prediction is made.

Claims 2 - 6 (canceled)

Claim 7 (previously presented): A method for use in a system for providing an anticipatory alert wherein at least one network performance metric is required to comply with a defined threshold, comprising:

monitoring, by a computer, a provided service to obtain, on a recurring basis, sets of samples representing actual network performance;

using only the obtained sets of samples containing at least a predetermined minimum number of samples in a linear regression analysis to generate a mathematical representation of a current trend in the network performance, further comprising:

calculating predefined statistical parameters of each obtained set of samples, wherein the calculated predefined statistical parameters comprise a standard deviation and mean of the set of samples,

determining whether the calculated predefined statistical parameters meet a predefined threshold requirement, and

using, in the linear regression analysis, only the obtained sets of samples for which the calculated predefined statistical parameters are determined to meet the predefined threshold

16 requirement;

17 using the mathematical representation, predicting a time when the network performance
18 metric will exceed the defined threshold if the current trend continues;

19 generating the anticipatory alert if the predicted time is within a fixed time window
20 measured from a current time at which the prediction is made; and

21 canceling a previously generated alert if a subsequently-generated mathematical
22 representation of the current trend predicts that the time when the network performance metric
23 will exceed the defined threshold is not within the fixed time window measured from a current
24 time at which the subsequent prediction is made.

Claims 8 - 10 (canceled)

1 Claim 11 (previously presented): The method as set forth in claim 7, wherein:

2 the predefined threshold requirement requires that the standard deviation be no greater
3 than a predetermined percentage of the mean.

1 Claim 12 (currently amended): A system for providing an anticipatory alert indicating a predicted
2 violation of a predetermined network performance requirement, the system comprising:

3 a memory;

4 a performance monitor which obtains sets of samples of a predefined service metric on a
5 recurring basis;

6 a sample processor which receives the obtained sets of samples and generates a

7 mathematical representation of a current trend in service metric values using ones of the obtained
8 sets of samples that contain at least a predetermined, minimum number of samples, wherein the
9 mathematical representation comprises a linear regression performed using the ones of the
10 obtained sets of samples and the sample processor further comprises:

11 statistical logic for determining a standard deviation and a mean of the ones of the
12 obtained sets of samples,

13 arithmetic logic for determining a ratio of the standard deviation and the mean of
14 the ones of the obtained sets of samples, and

15 prediction logic for generating a prediction, using the ones of the obtained sets of
16 samples in which the ratio of the standard deviation and the mean does not exceed a predefined
17 threshold, of a time at which the service metric will cross a defined threshold if the current trend
18 continues; [[and]]

19 an alert generator for generating the anticipatory alert if the time at which the service
20 metric will cross the defined threshold is less than a predetermined time from a current time at
21 which the prediction is made; and

22 a canceler for canceling a previously generated alert if a subsequently-generated
23 mathematical representation of the current trend predicts that the time when the service metric
24 will cross the defined threshold is not within the predetermined time measured from a current time
25 at which the subsequent prediction is made.

Claims 13 - 18 (canceled)

1 Claim 19 (currently amended): An article of manufacture comprising a non-transitory computer
2 useable storage medium having a computer readable program embodied therein, wherein the
3 computer readable program when executed in a computer causes the computer to:

4 receive, on a recurring basis, sets of samples of a service metric obtained by monitoring
5 performance of a network;

6 calculate predefined statistical parameters of the sets of obtained samples;

7 determine whether the calculated predefined statistical parameters meet predefined
8 threshold requirements, wherein the predefined threshold requirements include requiring a
9 minimum number of samples for each obtained set and a ratio of the calculated predefined
10 statistical parameters that does not exceed a predetermined ratio;

11 use ones of the sets of samples which meet the predefined threshold requirements to
12 generate a mathematical representation of a current trend in the service metric using linear
13 regression, the linear regression further comprising:

14 determining a standard deviation and a mean of the ones of the obtained sets of
15 samples, and

16 determining a ratio of the standard deviation and the mean of the ones of the
17 obtained sets of samples; [[and]]

18 use the mathematical representation to predict a time when the service metric will exceed
19 a defined threshold if the current trend continues; [[and]]

20 generate an anticipatory alert if the predicted time is less than a predefined time from a
21 time at which the prediction is made; and

22 cancel ~~canceling~~ a previously generated alert is a subsequently-generated mathematical

23 representation of the current trend predicts that the time when the service metric will exceed the
24 defined threshold is not within the predefined time from a time at which the subsequent prediction
25 is made.